Problems and Prospects of Sericulture in Dumka district of Jharkhand

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RANCHI UNIVERSITY, RANCHI

Supervisor:

Dr. Shiv Kumar

Assistant Professor

Department of Geography

St. Xavier's College, Ranchi

Research Scholar

Amit Kumar Hansdak

M.A., UGC NET (JRF)

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1. A BRIEF INTRODUCTION OF THE RESEARCH TOPIC

Sericulture has a huge potential in Dumka district of Jharkhand, the favourable climate and the availability of labourers makes it a viable option for practicing sericulture. The state government is also encouraging the initiative for sericulture in the region.

Cultivation of silkworms for the production of silk is known as the silk farming or Sericulture.

The research topic "Problems and Prospects of Sericulture in Dumka district of Jharkhand" delves into the challenges and potential opportunities associated with silk production in Dumka district. This study aims to explore the specific issues hindering sericulture in the region and identify the prospects for its growth.

All the 10 blocks of Dumka produces cocoons but among them only 6 blocks mainly Kathikund, Gopikander, Shikaripara, Ranishwar, Masalia and Sariyahat are the major the major producers. In the last financial year Dumka produced about 79674735 cocoons of which around 1827457 cocoons were disease free. Ironically Dumka district does not have industry or small scale industry to produce silk fiber for silk clothes.

In the year 2021-2022 Jharkhand's produce of silk stood at only 900 tons and most of the produce was supplied to the others states for reeling, spinning and other post cocoon processing. This would not have been the case if sericulture was developed within the region.

2. STATE OF THE ART

Sericulture is not the main source of income among the people of Dumka district of Jharkhand. Agriculture mainly growing of paddy in the month of Kharif season is the main source of Income. Sericulture is practiced by the people as a source of extra income for supporting the family. Dumka district is situated in a geographical setup favouring Sericulture.

At present there is about 3.5 lakh workers involved the production of tasar silk. Jharkhand alone has 2.2 lakh workers in various parts of the state involved in the rearing of tasar silk. In India about 70%-80% of tasar silk is produced in Jharkhand alone of which Dumka district of Santhal Pargana is a huge contributor.

To increase the production of the silk, women in large numbers are also being encouraged to take up sericulture. For this, under the National Rural Livelihood Mission (NRLM) which aims at providing sustainable livelihoods for the rural poor. Under this mission "Jharkhand State Livelihood Promotion Society" (JSLPS) which works as a nodal agency aims a diversification and strengthening of rural livelihoods so that they may come out of poverty.

Taufique. M. and Hoque. A.M.,(2021) examined the current scenario of sericulture production in India and found out that sericulture can be one of the activity generating employment in rural cottage Industry in India. It also helps in alleviating the poverty in the rural parts of India. **Khan. A.G., Saheb. N.S., Shabnam. A., Rashid. H., and Ghosh. M.K.,(2018)**, during their study of the Pampore area in Kashmir found out that availability of leaf is one of the biggest problem of the sericulture farms. In Santhal Pargana this problem can be tackled because of the rearing of silkworms on the Arjuna and Asan trees.

Sericulture is also one of the sectors which is said to bring about economic development and empowerment of women, **Bukhari. R., Kour. H., and Aziz. A.,(2019). Satsangi. A**, **(2014)**, also had the same view where the emphasis was given to help women take part in sericulture , where they can contribute to the society and the nation. Santhal Pargana also needs to set up various training and extension centers as suggested by **Eswarappa. K.,(2011),** for the development of Sericulture in the South Indian village of Kotha Indlu of Chitoor district Andhra Pradesh.

Bharathi. D (2016) in his paper, points out that Sericulture is primarily a village-based sector which provides job possibilities for a significant number of people. There is also a need to innovate the technological aspects of sericulture in order to generate adequate amount of income for the farmers. This technological innovation will generate continuous income for the farmers who consider sericulture as a subsidiary occupation.

Ssemugenge.B, Esimu. J, Nagasha. J and Masiga C.W.,(2021) opinioned that back in the days silk was utilized only as a fiber for textile industry but now recent research and development has made this a multi-purpose agro based industry. Through scientific research and development and funding from the government there can be better utilization and handling of secondary products of silkworms. Educating the farmers, training centers and research institute can be developed for the present and future socio-economic development of the region.

Chanotra.S, Bali. K and Bali. R.K.,(2019), they attempted to investigate how sericulture satisfy the opportunities of livelihood for rural people and how they can improve the long term feasibility of sericulture. They also came to the view that sericulture has helped the nation's rural and semi-urban communities generate revenue and create employment downstream.

Dewangan. S.K, Sahu. K.R and Soni S.K.,(2011), through their research paper which was focused on removing poverty through Sericulture among the tribals of Dharamjaigarh block of Raigarh Dist, CG, India, concluded that the tribal adopted sericulture and started conserving the environment by felling the trees as it was their way of life. Interstate migration was also checked as the employment was provided at the door step of the tribal people. Regular saving habits among the tribal people have also developed because they are now making a higher income than they ought to have to live on. It was also observed that Sericulture was suited for the tribals because it required very less cost and the skill for rearing the silkworms was easy. Sericulture was the source of additional income generation for the people of Dharamjaigarh block.

Santra. A,Chakraborty. D and Dhara. S.K.,(2018), made a conclusion that Sericulture in India is its nascent stage. Sericulture in India is a very promising agro based industry and it contributes greatly to the rural economy. India is lagging behind in the global market in comparison to China and Sri Lanka so the Government is taking active steps to promote industries through financial and intelligence. According to the authors the rural population feels that the conventional and traditional crops give them better economic return in comparison to sericulture, which is definitely incorrect.

Dewangan. S.K.,(2013), pointed out that livelihood generation is one of the major potential of sericulture and silk industry. This research paper on livelihood opportunities of Gharghoda Tribal Block, Raigarh District shows us that additional income is generated through sericulture. The income of the rural population more than doubled when they adopted this occupation. The research also concluded that Sericulture is a perfect choice for the women of the block since the occupation was close to the habitation. This occupation also supported the family when there was lean agriculture season.

Roy. P and Sarkar. P.,(2015), in his paper said that women participation in every age in the Alomtola village is more in comparison to the male counterpart. Sericulture has high employment and high income generation for the rural area. This has been major mode of development to rural area. This conclusion was made in the paper, “Work participation and

generation of income from Sericulture: A case study of Alomtola village of Kaliachak II block in Malda District of West Bengal".

3. PROBLEMS TO BE INVESTIGATED

Dumka district like the rest of India is also dependent on the unreliable rain. Dumka district also suffers from lack of proper irrigation facilities and this is also the reason behind low agricultural output. Illiteracy of the farmers and poverty has prevented the farmers from adopting modern methods of cultivation.

There are many problems just like the one mentioned above. This study will try to investigate the problems relating to sericulture in Dumka district. Some of the problems that will be investigated are:-

- This study will try to investigate the present and past conditions, problems and prospects of sericulture in the Dumka district.
- Many villagers from Dumka district migrate to other states in search of wage labour to support their family. Can Sericulture solve the problem of seasonal unemployment in Santhal Pargana, where the people are migrating to neighbouring states in search of jobs? This problem will be investigated in this study.
- Rearing of silkworms in the wild is known as Vanya (forest) silk. Can Sericulture be developed to protect the forested area within the study region?
- Dumka district being naturally gifted, practicing Sericulture will require relatively low investment and will be able to have a good market potential from the neighbouring states of Bihar mainly Bhagalpur area.
- Will Employment of women in this economic activity economically benefit the communities of the district?

4. OBJECTIVE AND MOTIVATION

Most of the farmers in Dumka district practice monocrop culture of cropping pattern even though the land has the potential to develop double cropping. More than 30% of the area is covered with forest which can be seen as a potential area for practicing sericulture.

In order to increase the rural employment and to bring about the changes in the region, Sericulture is a good option. It has also been seen that Sericulture has the ability to generate more income in comparison to mustard and paddy, Trivedi. S, Sarkar. K.,(2015). As the people of Santhal Pargana are mostly Tribals, the sense of protection and conservation of forest is embedded within them and sericulture gives them another reason for the same. The initial investment to develop sericulture is low. Sericulture also generates high profits as the study by Choudhari. SD., Latpate. C.B., and Mhetre. A.V.,(2021), shows . Sericulture is also an eco friendly economic activity. The researcher is familiar with the study region and is aware of the area that despite the favourable conditions sericulture is not given much heed in the area. The researcher was inspired to start the investigation by this..

The main objectives of the study are:-

- To assess the current status of sericulture in Dumka District.
- To identify the major problems and challenges faced by sericulturists in the region.
- To analyse the economic and social prospects of sericulture in Dumka District.
- To explore the role of government policies and interventions in promoting sericulture.
- To provide approaches for the district's sericulture industry to grow sustainably.

5. RESEARCH HYPOTHESES

- There is a positive correlation between the adoption of improved sericulture practices and increased economic prospects for sericulturists in the region.
- Bringing more area under sericulture will lead to the employment of the rural unemployed.
- Government policies and support have a significant impact on the growth of the sericulture sector in Dumka district.

6. RESEARCH DESIGN AND METHODOLOGY

Villages and blocks will be selected purposively for the collection of the data since there are only selected villages where sericulture is practiced within the region. The researcher will collect the primary data through schedule, interview and questionnaire methods since the researcher is familiar with the culture and language of the people of the study region. The respondents will be chosen through simple random sampling and snow ball sampling as the researcher will be targeting respondents who are familiar and engaged in sericulture.

The collected data will be tabulated accordingly, different charts and diagrams will be constructed with the help of the collected data. Different statistical and computer techniques will be made used for representation of the data.

Maps and diagrams will be made using various computer techniques like using GIS tools like QGIS, ArcGIS, and ERDAS.

After the data has been collected, tabulated and represented with the help of appropriate diagrams and charts; then analysis and interpretation of the data will be followed.

SELECTION OF THE FIELD

The district of Dumka has been chosen for the purpose of this study. The following factors are what encouraged the researcher to start the investigation.

- The region of Dumka district is favourable for Sericulture despite the available factors very less development can be seen in the field of sericulture.
- Despite the availability of labour, transport facility and suitable climate the region has not been able to generate employment for the rural population and still rural urban migration can be seen. In this case can sericulture play a role in stopping the migration of the people?
- The state government has formulated a strategy to establish a new identity for Dumka in the field of Sericulture. Elite seed station has been setup in Dumka to supply commercial quality seeds to the region and also the neighbouring states.
- The researcher resides in the study region and is acquainted with the changing financial situation of the region's sericulture. The researcher has witnessed many attempts made by the state government to encourage sericulture in the region; some were hits while others were a miss.

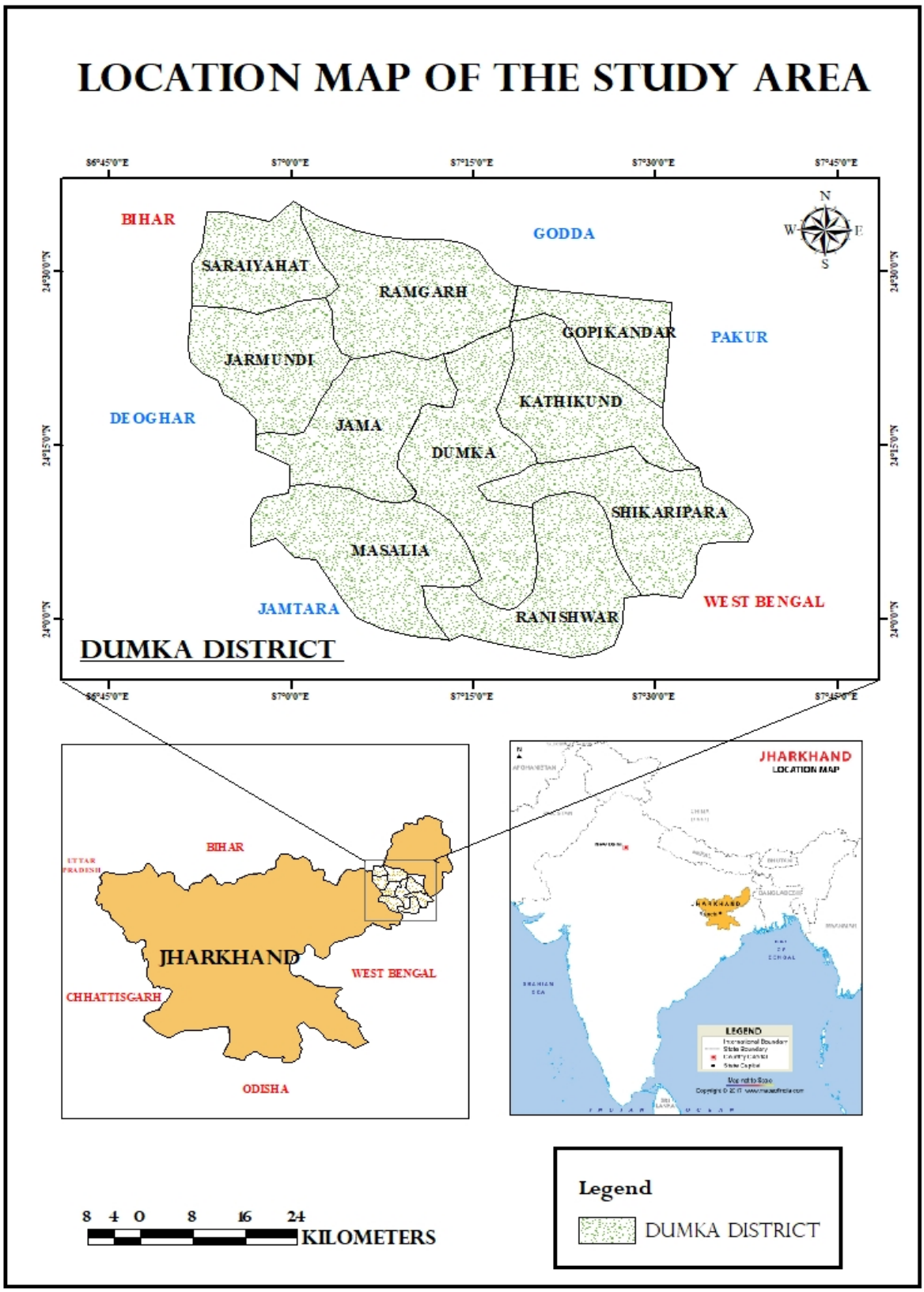
UNIT OF THE STUDY

Dumka is the headquarter of the administrative district division Dumka. Dumka district comprises of ten blocks, the blocks are Dumka, Gopikander, Jama, Jarmundi, Kathikund, Masalia, Ramgarh, Raneshwar, Saraiyahat and Shikaripara.

The Godda district in the north, the Pakur district in the east, the Banka district in Bihar in the west, the Birbhum district in West Bengal in the east, the Jamtara district in the south, and the Deoghar district in the west surrounds the district of Dumka.

The Dumka district is situated between 86°20' E and 87° 75' E and 23°38' N and 23° 45' N.

According to the 2011 census, there were 1321442 people living in the 3761 square kilometer Dumka district.



Source: ArcGis was used to generate the research area's location

SELECTION OF THE INFORMANTS

Selection of the informants for the collection of data is very crucial in surveying. In order to get proper information of the sericulture in Santhal Pargana the informants are those people who are involved in sericulture. The information regarding rearing of silkworms and the supply chain will be collected from the workers. Most of the primary data that will be used during the writing of the thesis will be obtained from these workers. Snow ball sampling technique will be used for selecting the informants.

Apart from the workers the information will be collected from the vendors, traders and the managers of the sericulture farm; as they will be able to provide first hand information for the survey.

SAMPLE SIZE

The population of Dumka district is about 13 lakhs and the population involved in Sericulture is only about a few thousands. It is not possible to collect data from each and every worker and so a sample size of 300 workers will be taken. The workers will be selected randomly from each of the sericulture farms located in Dumka district.

a. TENTATIVE CHAPTERS

Introduction
Chapter 1: Geographical Setup of the Study Area
Chapter 2: Historical Background of Sericulture in Dumka district
Chapter 3: Significant difficulties in the Dumka district's sericulture
Chapter 4: Prospects for Sericulture in Dumka district
Chapter 5: Assess the effectiveness of Sericulture related Government initiatives and policies in Dumka district
Chapter 6: Strategies for Sustainable Sericulture in Dumka district
Conclusion
Bibliography
Appendices

7. SOURCES OF DATA AND TOOLS FOR COLLECTION OF DATA

The data for the study will be collected from two sources:-

I. Primary Data Sources

The primary data will be collected through intensive field work of well planned and well designed questionnaires. The questionnaire will be prepared in such a way that the researcher will be able to collect data pertaining to various aspects from the research point of view.

II. Secondary Data Sources

The secondary data will be collected from various sources i.e. Survey of India District handbooks, various government bodies focused at sericulture, respective Silk boards of the Districts of Santhal Pargana. Records from all the sericulture sites situated in Santhal Pargana visited and collected information. Data obtained from Central silk Board and Various tasar silk institutions in the state. Maps will be collected from online website of survey of India and USGS so that data can be projected on them.

8. ANALYSIS OF DATA

The data that will be collected from the study area through schedule, interviews, questionnaires and data from secondary sources like government records will be segregated first. The collected data will be first arranged, and then tabulated. The tabulated data will be analyzed through various statistical methods like mean, median, co-relation, percentage and frequency. For the analysis of data various statistical techniques, cartographic techniques and computer techniques will be used. Analysis will be based on the observation of the data that has been processed and tabulated; and various graphs, charts, along with the maps generated through various computer techniques. Appropriate statistical method will also be used for testing the hypothesis.

9. SIFNIFICANCE OF THE STUDY

India comes second only after China in the production of silk in the world. India produces four varieties of Silk - Eri, Muga, Mulberry and Tasar. Jharkhand is the largest producer of tasar Silk in the country. Tasar Silk is mainly reared in the Asan and Arjuna trees.

According to the government records Jharkhand has produced about 9500 metric tonnes of raw tasar in between October 2015 and June 2019 (**Hindustan Times,Ranchi, 11 Sep. 2019**). Among the top districts contributing in the production of silk were Dumka and Deoghar of Santhal Pargana Division.

The significance of the study is as follows:-

- By understanding the challenges and opportunities in sericulture the policy makers and the stakeholders can make informed decisions to boost the income and employment opportunities in this sector.
- Sericulture is considered an eco friendly and sustainable practice, study in this sector can lead to more sustainable and environmental friendly silk production methods, this is crucial in today's context of ecological concerns.
- A study of the prospects can provide better insights into the market trends, consumer preferences and technological advancements needed to capitalize for the growth.
- Sericulture can lead to the innovation in silkworm rearing, reeling and production of fabric. This can enhance the quality and efficiency of silk production.
- Sericulture mostly involves rural population. Major population of the district is rural in nature, addressing this problem can lead to rural development by improving income levels and living standards in the study area. Dumka district has a huge potential in the sericulture industry with its capable rural population.

10. ITS RELEVANCE TO THE PRESENT DAY PROBLEM AND NEED OF THE SOCIETY

The positive result that is being observed within the state in regards to sericulture is because of the initiatives by the State Government.

Despite various initiatives by the State Government Dumka district is still facing the problems of unemployment. Sericulture has to be developed more within the district in order to see progress in Sericulture. The region has favourable Climatic and Geographical conditions that makes it ideal region for sericulture. Sericulture being eco friendly, where the tribals and all the weaker sections of the society can participate in this economic activity; sense of protection and conservation of the area can also remain intact.

Dumka and Godda districts of Santhal Pargana are the major hubs for sericulture.

Sericulture is the main source of raw material for textile industries. Sericulture helps in generating income for the people involved in sericulture and thus they can allocate funds for

the development of the economic activity. Additional income will strengthen the purchasing power of the farmer. Sericulture to great extent will minimize the intensity of rural unemployment and rural urban migration.

11. CONTRIBUTION TO THE EXISTING KNOWLEDGE

The life style of the poverty stricken farmers will improve greatly due to economic development and upliftment. The study will greatly help in understanding the relationship between the interstate migration of wage labourers and the farmers who will be generating additional income from sericulture. This study will also help in understanding the management skills of the tribals as they will be dealing with various traders for selling the products. Participation of tribal women in sericulture and their degree of involvement in sericulture will also be understood. To what extent the various initiatives by the government are functional in the ground level will also be analyzed in this study. The study will be valuable in addressing the broader sustainability challenges in agriculture and natural resource management.

This knowledge can have far reaching impacts beyond the sericulture industry benefitting various sectors and addressing broader societal and environmental challenges.

12. FUTURE WORK

Sericulture is an evolving industry in the backward areas; this gives many opportunities for development in the study area. With the development of sericulture the scope of studying this sector will also catapult. There are varied areas where this research can be carried forward. Some of the future works that can be done are as follows:-

i. Study on the expansion and improvement of Seri Marketing in the study area.

ii. Research for setting up proper weaving and reeling centers.

iii. Analysis of the effectiveness of innovation for Seri farmers in the study area.

iv. Management of sericulture waste and generation of employment and additional revenue

v. Study of Self help groups who are mainly engaged in sericulture in the study area.

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